

G. Ewoldt

1644

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/401,636

DATE: 06/05/2000
TIME: 10:34:53

Input Set : A:\Sequence
Output Set: N:\CRF3\06022000\I401636.raw

ENTERED

4 <110> APPLICANT: Hellman, Lars T.
6 <120> TITLE OF INVENTION: ENHANCED VACCINES
8 <130> FILE REFERENCE: 10223/006001
10 <140> CURRENT APPLICATION NUMBER: US 09/401,636
11 <141> CURRENT FILING DATE: 1999-09-22
13 <150> PRIOR APPLICATION NUMBER: US 60/106,652
14 <151> PRIOR FILING DATE: 1998-11-02
16 <160> NUMBER OF SEQ ID NOS: 11
18 <170> SOFTWARE: FastSEQ for Windows Version 4.0
20 <210> SEQ ID NO: 1
21 <211> LENGTH: 331
22 <212> TYPE: PRT
23 <213> ORGANISM: Artificial Sequence
25 <220> FEATURE:
26 <223> OTHER INFORMATION: Synthetically generated proteins
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31 Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly Gly His Phe Pro Pro
32 20 25 30
33 Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr Thr Pro Gly Thr Ile
34 35 40 45
35 Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met Asp Val Asp Leu Ser
36 50 55 60
37 Thr Ala Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln Ser Glu
38 65 70 75 80
39 Leu Thr Leu Ser Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Cys
40 85 90 95
41 Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys
42 100 105 110
43 Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser
44 115 120 125
45 Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro Thr Ile Thr Cys Leu Val
46 130 135 140
47 Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg
48 145 150 155 160
49 Ala Ser Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu Lys Gln
50 165 170 175
51 Arg Asn Gly Thr Leu Thr Val Thr Ser Thr Leu Pro Val Gly Thr Arg
52 180 185 190
53 Asp Trp Ile Glu Gly Glu Thr Tyr Gln Cys Arg Val Thr His Pro His
54 195 200 205
55 Leu Pro Arg Ala Leu Met Arg Ser Thr Thr, Lys Thr Ser Gly Pro Arg
56 210 215 220
57 Ala Ala Pro Glu Val Tyr Ala Phe Ala Thr Pro Glu Trp Pro Gly Ser
58 225 230 235 240
59 Arg Asp Lys Arg Thr Leu Ala Cys Leu Ile Gln Asn Phe Met Pro Glu

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60                               245                250                255
61 Asp Ile Ser Val Gln Trp Leu His Asn Glu Val Gln Leu Pro Asp Ala
62                               260                265                270
63 Arg His Ser Thr Thr Gln Pro Arg Lys Thr Lys Gly Ser Gly Phe Phe
64                               275                280                285
65 Val Phe Ser Arg Leu Glu Val Thr Arg Ala Glu Trp Glu Gln Lys Asp
66                               290                295                300
67 Glu Phe Ile Cys Arg Ala Val His Glu Ala Ala Ser Pro Ser Gln Thr
68 305                               310                315                320
69 Val Gln Arg Ala Val Ser Val Asn Pro Gly Lys
70                               325                330
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73 <211> LENGTH: 340
74 <212> TYPE: PRT
75 <213> ORGANISM: Artificial Sequence
77 <220> FEATURE:
78 <223> OTHER INFORMATION: Synthetically generated proteins
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82 1                               5                10                15
83 Asp Leu Leu His Ser Ser Cys Asp Pro Asn Ala Phe His Ser Thr Ile
84                               20                25                30
85 Gln Leu Tyr Cys Phe Val Tyr Gly His Ile Gln Asn Asp Val Ser Ile
86                               35                40                45
87 His Trp Leu Met Asp Asp Arg Lys Ile Tyr Glu Thr His Ala Gln Asn
88                               50                55                60
89 Val Leu Ile Lys Glu Glu Gly Lys Leu Ala Ser Thr Tyr Ser Arg Leu
90 65                               70                75                80
91 Asn Ile Thr Gln Gln Gln Trp Met Ser Glu Ser Thr Phe Thr Cys Lys
92                               85                90                95
93 Val Thr Ser Gln Gly Glu Asn Tyr Trp Ala His Thr Arg Arg Cys Ser
94                               100               105               110
95 Asp Asp Glu Pro Arg Gly Val Ile Thr Tyr Leu Ile Pro Pro Ser Pro
96                               115               120               125
97 Leu Asp Leu Tyr Glu Asn Gly Thr Pro Lys Leu Thr Cys Leu Val Leu
98                               130               135               140
99 Asp Leu Glu Ser Glu Glu Asn Ile Thr Val Thr Trp Val Arg Glu Arg
100 145                               150               155               160
101 Lys Lys Ser Ile Gly Ser Ala Ser Gln Arg Ser Thr Lys His His Asn
102                               165               170               175
103 Ala Thr Thr Ser Ile Thr Ser Ile Leu Pro Val Asp Ala Lys Asp Trp
104                               180               185               190
105 Ile Glu Gly Glu Gly Tyr Gln Cys Arg Val Asp His Pro His Phe Pro
106                               195               200               205
107 Lys Pro Ile Val Arg Ser Ile Thr Lys Ala Pro Gly Lys Arg Ser Ala
108                               210               215               220
109 Pro Glu Val Tyr Val Phe Leu Pro Pro Glu Glu Glu Glu Lys Asp Lys
110 225                               230               235               240
111 Arg Thr Leu Thr Cys Leu Ile Gln Asn Phe Phe Pro Glu Asp Ile Ser

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164 225          230          235          240
165 Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr Cys
166          245          250          255
167 Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu Phe
168          260          265          270
169 Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro Gln
170          275          280          285
171 Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met Leu
172          290          295          300
173 Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val
174 305          310          315          320
175 Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His
176          325          330          335
177 Tyr Ser Ala Gly Asn
178          340
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181 <211> LENGTH: 341
182 <212> TYPE: PRT
183 <213> ORGANISM: Artificial Sequence
185 <220> FEATURE:
186 <223> OTHER INFORMATION: Synthetically generated proteins
188 <400> SEQUENCE: 4
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190 1 5 10 15
191 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
192 20 25 30
193 Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
194 35 40 45
195 Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
196 50 55 60
197 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
198 65 70 75 80
199 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
200 85 90 95
201 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
202 100 105 110
203 Ser Ile Phe Glu Asp Ser Ser Arg Arg Cys Ser Asp Asp Glu Pro Arg
204 115 120 125
205 Gly Val Ile Thr Tyr Leu Ile Pro Pro Ser Pro Leu Asp Leu Tyr Glu
206 130 135 140
207 Asn Gly Thr Pro Lys Leu Thr Cys Leu Val Leu Asp Leu Glu Ser Glu
208 145 150 155 160
209 Glu Asn Ile Thr Val Thr Trp Val Arg Glu Arg Lys Lys Ser Ile Gly
210 165 170 175
211 Ser Ala Ser Gln Arg Ser Thr Lys His His Ala Thr Thr Ser Ile
212 180 185 190
213 Thr Ser Ile Leu Pro Val Asp Ala Lys Asp Trp Ile Glu Gly Glu Gly
214 195 200 205
215 Tyr Gln Cys Arg Val Asp His Pro His Phe Pro Lys Pro Ile Val Arg

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216      210      215      220
217 Ser Ile Thr Lys Leu Pro Gly Lys Arg Leu Ala Pro Glu Val Tyr Met
218 225      230      235      240
219 Leu Pro Pro Ser Pro Glu Glu Thr Gly Thr Thr Arg Thr Val Thr Cys
220      245      250      255
221 Leu Ile Arg Gly Phe Tyr Pro Ser Glu Ile Ser Val Gln Trp Leu Pro
222      260      265      270
223 Asn Asn Glu Glu Asp His Thr Gly His His Thr Thr Thr Arg Pro Gln
224      275      280      285
225 Lys Asp His Gly Thr Asp Pro Ser Phe Phe Leu Tyr Ser Arg Met Leu
226      290      295      300
227 Val Asn Lys Ser Ile Trp Glu Lys Gly Asn Leu Val Thr Cys Arg Val
228 305      310      315      320
229 Val His Glu Ala Leu Pro Gly Ser Arg Thr Leu Glu Lys Ser Leu His
230      325      330      335
231 Tyr Ser Ala Gly Asn
232      340
234 <210> SEQ ID NO: 5
235 <211> LENGTH: 342
236 <212> TYPE: PRT
237 <213> ORGANISM: Artificial Sequence
239 <220> FEATURE:
240 <223> OTHER INFORMATION: Synthetically generated proteins
242 <400> SEQUENCE: 5
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244 1      5      10      15
245 Pro Val Thr Ile Ile Pro Pro Thr Val Lys Leu Phe His Ser Ser Cys
246      20      25      30
247 Asp Pro Arg Gly Asp Ala His Ser Thr Ile Gln Leu Leu Cys Leu Val
248      35      40      45
249 Ser Gly Phe Ser Pro Ala Lys Val His Val Thr Trp Leu Val Asp Gly
250      50      55      60
251 Gln Glu Ala Glu Asn Leu Phe Pro Tyr Thr Thr Arg Pro Lys Arg Glu
252 65      70      75      80
253 Gly Gly Gln Thr Phe Ser Leu Gln Ser Glu Val Asn Ile Thr Gln Gly
254      85      90      95
255 Gln Trp Met Ser Ser Asn Thr Tyr Thr Cys His Val Lys His Asn Gly
256      100      105      110
257 Ser Ile Phe Glu Asp Ser Ser Arg Arg Cys Ser Asp Asp Glu Pro Arg
258      115      120      125
259 Gly Val Ile Thr Tyr Leu Ile Pro Pro Ser Pro Leu Asp Leu Tyr Glu
260      130      135      140
261 Asn Gly Thr Pro Lys Leu Thr Cys Leu Val Leu Asp Leu Glu Ser Glu
262 145      150      155      160
263 Glu Asn Ile Thr Val Thr Trp Val Arg Glu Arg Lys Lys Ser Ile Gly
264      165      170      175
265 Ser Ala Arg Ser Leu Val Val Lys Glu Gln Tyr Asn Gly Thr Phe Thr
266      180      185      190
267 Val Thr Ser His Leu Pro Val Asn Thr Asp Asp Trp Ile Glu Gly Asp

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